

Resource Configuration in Family Firms: Linking Resources, Strategic Planning and Technological Opportunities to Performance

**Kimberly A. Eddleston, Franz Willi Kellermanns and
Ravi Sarathy**

Northeastern University; Mississippi State University; Northeastern University

ABSTRACT We apply the resource-based view of the firm to the study of family firms by investigating how a family specific resource (reciprocal altruism) and a firm specific resource (innovative capacity) contribute to family firm performance. We then examine how the impact of these resources is moderated by strategic planning and technological opportunities. Our findings suggest that family firms can benefit from emphasizing the positive aspects of kinship and from developing innovative capacities. As such, we demonstrate that not only do firm specific resources contribute to family firm performance, but also that family relationships can be a source of competitive advantage for a family firm. In addition, we found a heightened importance of reciprocal altruism in environments rich in technological opportunities, and that strategic planning is more important for those family firms that lack innovative capacities.

INTRODUCTION

Family ownership profoundly affects how resources are valued in family firms (Habbershon et al., 2003). While family members control the firm's assets and decision-making, they also tend to be overly concerned with wealth preservation, thereby inhibiting their firm's investment in resources and growth strategies (Carney, 2005). This interaction between the family and the business may therefore effect how resources are managed and deployed in family firms. Indeed, applying the resource-based view to the study of family firms appears to be a fruitful route for furthering our understanding of how the interplay between the family and the firm affects family firm performance (Nordqvist, 2005). Although previous research has often compared family and non-family businesses, little research has examined what capabilities distinguish successful family firms from their less successful counterparts or the positive advantages that family involvement can have on firm performance (Nordqvist, 2005; Sirmon and Hitt, 2003). This paper aims to fill this gap by considering how family- and firm-specific resources contribute to family

Address for reprints: Kimberly A. Eddleston, College of Business Administration, Northeastern University, 319 Hayden Hall, Boston, MA 02115-5000, USA (k.eddleston@neu.edu).

firm performance. Such a study is important given that more than 80 per cent of operating firms and 77 per cent of all new ventures are family businesses (Chua et al., 2004).

According to the resource-based view (RBV), a competitive advantage often results from the ambiguity that arises from a firm's technical complexity and/or its social complexity (Barney, 1991; Colbert, 2004). In applying the RBV to the study of family firms, we consider innovative capacity as a technically-based firm-specific resource and reciprocal altruism as a socially-based family-specific resource that may enhance family firm performance. Building on the definition of McGrath (McGrath, 2001, p. 118), we define innovative capacity as the degree to which a firm is committed to finding 'new approaches to technologies, businesses, processes or products'. By focusing on innovative capacity, we are able to isolate the exploration dimension of absorptive capacity in a resourced-based framework (Cohen and Levinthal, 1989, 1990; Lane et al., 2006; McGrath, 2001). Specifically, the ability of a firm to foster productive R&D and to create organizational routines that lead to the discovery of new innovations may be an important resource (McGrath, 2001) that distinguishes successful family firms. A better understanding of family firms' innovative capacities is needed given that family firms are often reluctant to fund innovative ventures (Carney, 2005), since resource deployment decisions are made with the family's own money (Chrisman et al., 2005b). However, it has been suggested that family firms must consider investing in innovation if they are to avoid decline and promote high performance (McCann et al., 2001; Upton et al., 2001; Zahra et al., 2004). Accordingly, innovative capacity appears to be a particularly potent firm-specific resource that may significantly distinguish successful family firms from their less successful counterparts (Gudmundson et al., 2003).

In addition, the family may be a source of competitive advantage in family firms. Recently researchers have begun to discuss the need for studies that consider how the family can contribute to a family firm's competitive advantage (i.e. Habbershon et al., 2003; Heck, 2004; Kellermanns and Eddleston, 2004; Nordqvist, 2005; Sirmon and Hitt, 2003). It is believed that stewardship theory may be a promising perspective (Corbetta and Salvato, 2004) in considering how family interactions can contribute to family firm success. Specifically, reciprocal altruism may be an important socially-complex resource that differentiates families that act as stewards of the firm from those who constrain and diminish their firm's performance. This is in stark contrast to the vast amount of agency theory-based studies that have focused on conflict and dysfunctional behaviours of family members working in family firms (Corbetta and Salvato, 2004; Nordqvist, 2005).

Our study further explores the moderating influences of strategic planning and technological opportunities on the degree to which resources are able to contribute to a firm's performance. The exploration of contingency effects is key to our understanding of the RBV in the family firm context given that resources need to be strategically deployed and leveraged (Chrisman et al., 2003; Sirmon and Hitt, 2003) so as to garner a competitive advantage. That is, while a family firm's resource profile may contribute to its performance, these resources must be integrated and deployed effectively through strategic planning to achieve a competitive advantage. Furthermore, while resources are the essential building blocks of gaining a competitive advantage, they must also be leveraged

to effectively pursue environmental opportunities (Chrisman et al., 2003). Strategic planning and environmental opportunities, specifically technological opportunities, may play a particularly important role in explaining how family- and firm-specific resources contribute to family firm performance given that only about a third of family firms possess a strategic plan (MassMutual Financial Group/Raymond Institute American Family Business Survey, 2003) and family firms tend to be disadvantaged in technologically-advanced industries (Carney, 2005).

As such, our paper contributes to the literature in three ways. First, we add to the RBV research by considering contingencies to the resource–performance relationship (Priem and Butler, 2001) and by demonstrating how employee relationships can be a source of competitive advantage. Specifically, this paper recognizes that simply possessing an abundance of resources may not be enough to garner a competitive advantage (Mishina et al., 2004), moderating factors should also be considered. Second, this paper answers the call for more research that considers the contributions of both the family and the business in understanding why some family firms are so successful while the success of others is often limited in terms of size and scope (Chrisman et al., 2005a; Heck, 2004; Nordqvist, 2005). In particular, we examine how the family-specific resource reciprocal altruism and the firm-specific resource innovative capacity contribute to family firm performance. As such, this is one of the few studies that takes a RBV perspective within the realm of the family firm, demonstrating the applicability of the RBV to family businesses. Third, this is one of the first studies to draw from stewardship theory to explain and empirically test how reciprocal altruism may act as a family-based resource that contributes to a family firm's competitive advantage.

We begin by briefly describing the RBV and then discussing innovative capacity and reciprocal altruism as resources that contribute to a family firm's performance. We follow this with a discussion of how strategic planning and technological opportunities are expected to impact how the resources affect family firm performance. This is followed by the presentation of our study results and a discussion of their implications.

THE RESOURCE-BASED VIEW OF THE FIRM

According to the resource-based view (RBV), firms can develop unique characteristics that allow them to gain a sustainable competitive advantage, thus positively affecting their performance. These firm-specific assets can be both tangible and intangible, but the key is that they are not available to all firms in the industry. Barney (1991) described four characteristics of these firm-specific assets: they need to be valuable, rare, not easy to imitate, and non-substitutable. Grant (1991) further added that the firm should be capable of organizing itself to exploit these rare and unique assets. Examples of firm-specific assets include leadership, technology, capital, manufacturing processes, brand names, databases, patent-protected products, human capital, tacit knowledge, the firm's culture, management skills and experience, the set of employees, the founder/owner's entrepreneurial abilities and know-how, and a firm's network of alliances (Greene, 1997; Hanks et al., 1994).

A further element of the RBV is that resources alone do not confer a competitive advantage. Firms must also allocate these resources for strategic activities, deploy them

effectively to obtain a sustainable competitive advantage and accomplish strategic objectives (Collis, 1995). Therefore, to succeed, firms must develop resources that cannot be easily imitated and are firm-specific, embedded in the organization and non-transferable (Makadok, 2001).

The importance of the RBV to the field of entrepreneurship (e.g. Alvarez and Barney, 2004; Alvarez and Busenitz, 2001) and to the field of family firms in particular (Habbershon and Williams, 1999; Habbershon et al., 2003; Sirmon and Hitt, 2003) has recently been emphasized. Resource management poses unique challenges in family firms (Chrisman et al., 2003; Kellermanns, 2005; Sharma and Manikuttu, 2005; Sirmon and Hitt, 2003). Because family firms often make tradeoffs between economic and non-economic goals (Chrisman et al., 2003), how resources are evaluated, pursued, built, leveraged and deployed often varies. Family firms must be able to identify and build strategic resources that not only exploit their family ties but also are pertinent in today's entrepreneurial landscape. Those resources that are technically and/or socially complex appear to provide the greatest barriers to imitation by competitors (Colbert, 2004). Indeed, it has been suggested that those family firms that are innovative and possess internal cohesiveness may enjoy a strategic advantage (Miller et al., 2003, 2008). Accordingly, we have chosen to focus on two resources that may be particularly important to family firm performance. We first consider the importance of innovative capacity as a technically-complex resource since family firms are often criticized for failing to invest in innovation (Morck and Yeung, 2003, 2004) and R&D (Carney, 2005), despite the importance of innovation in enhancing enterprise competitiveness (Hitt et al., 1998; Roberts, 1999). We then explore a distinct socially-complex resource that the family may contribute to performance, reciprocal altruism, given that family relationships that embody organizational commitment, trust and strong bonds may be a valuable resource for family firms (Cabrera-Suarez et al., 2001; Kellermanns and Eddleston, 2004; Sirmon and Hitt, 2003). Indeed, both reciprocal altruism and innovative capacity are subject to unique influences in family firms (e.g. Corbetta and Salvato, 2004; Gudmundson et al., 2003). Furthermore, because strategic planning may help a family firm to effectively integrate and deploy resources (Chrisman et al., 2005b; Sirmon and Hitt, 2003) while environments rich in technological opportunities may require a firm to possess greater resources to survive (Shane and Venkataraman, 2000), the role of strategic planning and technological opportunities is considered.

Innovative Capacity as a Firm-Specific Resource

Many family firms tend to be disadvantaged at developing organizational capabilities that require extensive investment in R&D and innovation because family firms are either ill-equipped to build such capabilities or because they are overly concerned with wealth preservation, and thus, limit their investments (Carney, 2005). Research suggests that family firms tend to lack innovative capacity since they are more likely to maximize their profits by investing in political rent-seeking behaviour than in innovation (Ellington et al., 1996; Morck and Yeung, 2003, 2004). For example, family firms are often criticized for failing to invest in new ventures (Cabrera-Suarez et al., 2001), avoiding risk

(Morris, 1998) and resisting change (Levinson, 1987). As such, many family firms do not plan for the future or invest in developing their innovative capacities.

However, innovation and entrepreneurship have been found to be important factors that contribute to firm success (Hadjimanolis, 2000; Verhees and Meulenbergh, 2004; Zahra et al., 2000). In line with the RBV, the continuous investment in innovation helps firms to create the ambiguity and barriers to imitation that are necessary to create a competitive advantage (Reed and DeFillippi, 1990). Innovative capacity is important for organizational learning and the exploration process which can enhance firm growth and organizational renewal (McGrath, 2001). Further, it has been shown that greater investment in innovation can lead to a sustainable competitive advantage (Roberts, 1999).

Indeed, studies suggest that those family firms that invest in innovation tend to have the greatest potential for high performance and growth (Gudmundson et al., 2003; Lee et al., 2001; McCann et al., 2001). Innovative capacity may help family firms to strengthen their market position over time by helping them to adapt, and even to initiate, changes in their markets and industry (McGrath, 2001; Meyer and Zucker, 1989). Thus, innovative capacity may be a particularly important resource that contributes to family firm success since it fosters entrepreneurial activities that can increase firm distinctiveness and profitability (McGrath, 2001; Zahra et al., 2004). In contrast, those family firms that fail to develop innovative capacities may eventually become misaligned with the evolving needs of their customers, losing market share to competitors (McGrath, 2001; Meyer and Zucker, 1989). Accordingly, we hypothesize a positive association between innovative capacity and financial performance of family firms:

Hypothesis 1: Innovative capacity is positively related to family firm performance.

Reciprocal Altruism as a Family-Specific Resource

Although most family firm research that considers family relationships is often rooted in agency theory and focuses on the dysfunctional behaviours of family members (Corbetta and Salvato, 2004; Nordqvist, 2005), recently there has been a call for research that utilizes a conceptual lens that is more in line with the human assumptions of the family and includes pro-organizational behaviours (Corbetta and Salvato, 2004). Specifically, it has been proposed that stewardship theory may be a particularly suitable vantage point in viewing family involvement as an advantage that maximizes the performance of the firm (Corbetta and Salvato, 2004). Stewardship theory draws from the assumptions of McGregor's (1960) classic Theory Y which views employees as being active, intrinsically motivated and as having a high capacity for assuming responsibility (Tosi et al., 2003). In this way, employees are seen as stewards of the firm who are not motivated by individual goals, but rather, whose interests are aligned with those of the organization (Davis et al., 1997). Stewardship theory proposes that stewards maximize their own utility by acting in their organization's best interest to attain the goals of the organization, such as sales growth and profitability (Davis et al., 1997). This view of human nature is in stark contrast to that of agency theory, which is reflected in McGregor's (1960) Theory X and is based on the assumption that employees are passive, lazy, not intrinsically motivated to work and opportunistic (Tosi et al., 2003).

In particular, according to stewardship theory of the family firm (Corbetta and Salvato, 2004), reciprocal altruism may explain why in some family firms members are able to successfully work together and run a business while in others, family members are laden with animosity and feelings of entitlement that lead to deteriorating performance (Kellermanns and Eddleston, 2004). The assumption of reciprocal altruism in the stewardship framework 'is that of unselfish concern and devotion to others without expected return . . . whose primary effect is a strong sense of identification and high value commitment towards the firm' (Corbetta and Salvato, 2004, p. 358). Altruism is expected to reinforce family members' interdependence and to encourage them to place the firm's objectives ahead of their own (Zahra, 2003). This is quite different from the asymmetrical-type of altruism adopted by economic and agency theories (Corbetta and Salvato, 2004), that often focuses on how altruism affects the parent-child relationship and compels parents to be overly generous towards their children, thereby encouraging children to free ride, shirk and remain dependent upon their parents (Schulze et al., 2002, 2003b).

As such, in line with stewardship theory, we focus on the reciprocal aspect of altruism that can embody the family unit and characterize a family firm's culture. Following from stewardship theory (Davis et al., 1997), altruistic families are characterized as possessing collectivistic orientations that encourage family members to exercise self-restraint, demonstrate helping behaviours, and to consider the effect of their actions on the firm (Kellermanns and Eddleston, 2004). Indeed, altruism has been linked with positive discretionary behaviours similar to organizational citizenship, but with greater focus on interdependence and reciprocal helping behaviours (Stamper and Masterson, 2002). In altruistic family firms members are highly dedicated to the firm and members believe that they have a common family responsibility to see the business prosper (Cabrera-Suarez et al., 2001) and to work towards improving the firm's competitive position (Zahra, 2003). This depiction of the family supports recent arguments that productive family relationships can be a source of competitive advantage for family firms (Cabrera-Suarez et al., 2001; Habbershon et al., 2003; Sirmon and Hitt, 2003). Therefore, our view of altruism, which we will refer to as reciprocal altruism for clarity purposes, focuses specifically on how family members can act as stewards of the firm, thereby contributing to their firm's performance.

However, the degree of reciprocal altruism varies greatly among families; that is, family members differ in their level of dedication to the business and the degree to which they believe that they have a common family responsibility to see the business prosper (Cabrera-Suarez et al., 2001; Kellermanns and Eddleston, 2004; Kepner, 1991). While many family firms are plagued with interpersonal problems and conflict among family members (Danes et al., 1999; Sorenson, 1999), those families that are able to foster a culture of reciprocal altruism and thereby instil loyalty, interdependence and commitment to their firm's prosperity (Ward, 1987) may be seen as building a constructive, socially-embedded resource that is strategically important to their firm's success (Colbert, 2004). According to recent RBV research, human resources that are a product of complex social structures built over time are the most valuable and most difficult to imitate (e.g. Colbert, 2004; Hatch and Dyer, 2004). This conceptualization of family involvement as a potential resource to the family firm is in accordance with the work of Habbershon and Williams (1999) and Habbershon et al. (2003) which argues that the

confluence of the family and the business can lead to a competitive advantage when it is 'unique, inseparable and synergistic' and becomes a 'hard to duplicate' capability (Nordqvist, 2005, p. 287). This leads to the following hypothesis.

Hypothesis 2: Reciprocal altruism is positively related to family firm performance.

The Need for Strategic Planning

While resources are important to a firm's performance, according to the RBV, whether an organization gains a competitive advantage and the associated returns, depends on the strategic planning used to leverage those resources (Barney and McEwing, 1996; Chrisman et al., 2003; McGrath and MacMillan, 2000). Strategic planning helps a firm to properly exploit its resources, thereby improving its performance (Hamel and Prahalad, 1989). As such, family firms must manage their resources effectively and participate in strategic planning in order to successfully compete in increasingly competitive environments (Sirmon and Hitt, 2003). By combining the RBV with the study of family firms, we see the unique characteristics of a family firm as a bundle of resources that, when strategically managed, can contribute to family firm performance. Therefore, a family firm's level of strategic planning may impact the degree to which innovative capacity and reciprocal altruism have a positive effect on performance.

Specifically, strategic planning may heighten the positive effects of innovative capacity on family firm performance because strategic planning helps firms to better assess how resources should be dedicated for greater innovation and risk-taking (Thomke and Kuemmerle, 2002; Zahra et al., 2004). That is, greater strategic planning should assist firms in better integrating and deploying their resources so as to achieve a competitive advantage (Ketokivi and Castaner, 2004). For example, research suggests that an organization's ability to strategically manage its innovative capacity is positively related to product development and the organization's subsequent performance (Deeds et al., 1998). Strategic planning may therefore improve the resource allocation decisions of family firms by contributing to their ability to quickly pursue opportunities and to gain market prominence (Chrisman et al., 2005a). Indeed, research suggests that for family firms to prosper from their innovative capacities they need to invest in formal strategic processes (McCann et al., 2001). Without strategic planning, family firms may fail to fully capitalize on their innovative capacities, leading to lost opportunities and wasted resources. Thus, strategic planning is expected to increase the positive performance effects attributed to innovative capacity in family firms.

Hypothesis 3a: Strategic planning moderates the relationship between innovative capacity and family firm performance. Specifically, the strength of the positive relationship between innovative capacity and performance is greater when there is a high level of strategic planning.

Reciprocal altruism in the stewardship framework is similar to the concept of psychological ownership in that it is associated with a 'strong sense of identification and high value commitment towards the firm' (Corbetta and Salvato, 2004, p. 358). Stewards

believe that by working towards organizational goals their personal needs will also be met (Davis et al., 1997). As such, strategic planning may help to channel family members' altruistic and helping behaviours towards accomplishing family firm goals. For example, the discussion of each family member's abilities and how they should be effectively deployed to accomplish firm goals is of the utmost importance to family firm success and survival (Kellermanns and Eddleston, 2004). In contrast, when family firms do not possess strategic plans, family members may not know how to prioritize their efforts or how best to contribute to the firm. Therefore, strategic planning may help leverage the reciprocal altruism of family members by making apparent the goals of the firm so as to direct family members' efforts where they are most needed to maximize firm performance. Formally stated,

Hypothesis 3b: Strategic planning moderates the relationship between reciprocal altruism and family firm performance. Specifically, the strength of the positive relationship between reciprocal altruism and performance is greater when there is a high level of strategic planning.

Technological Opportunities

The technological opportunities of a firm's environment reflect the extent to which a firm believes that its primary industry offers major opportunities for growth and technological change (Zahra, 1996). While environments low in technological opportunities are often limited in their growth potential and R&D investments (Zahra, 1996), those that are rich in technological opportunities are typically associated with rapidly changing customer mix and customer needs, a rapid pace of new product entry, volatility in the entry and exit of industry competitors, and radical shifts in market share (Jaworski and Kohli, 1993). Due to this market turbulence, there is little time to react, resource needs can change quickly, and technologies underlying products can become suddenly obsolete (Covin and Slevin, 1989). Accordingly, technological opportunities may affect the degree to which resources contribute to a firm's performance because changes in a firm's environment can either render existing resources obsolete or they can present a firm with market opportunities (Bloodgood and Morrow, 2003).

As such, environments rich in technological opportunities require a continuous investment in a firm's competencies in order to differentiate themselves from their competitors (D'Aveni, 1994; Floyd and Lane, 2000). Specifically, firms operating in environments rich in technological opportunities may need greater resources in order to exploit market opportunities (Shane and Venkataraman, 2000). Innovative capacity may be a particularly important resource in maintaining a competitive position in rapidly changing environments (Bharadwaj, 2000; McGrath, 2001) since it fosters venturing activities and innovation (Sirmon and Hitt, 2003). Innovative capacity allows organizations to differentiate themselves from the competition and to create a competitive advantage. For example, high performing family firms tend to be proactive and innovative while poor performing firms tend to react to events in their environments by avoiding risk and limiting their investment in innovation (Upton et al., 2001). Furthermore, in environments rich in technological opportunities innovative capacity may be essential since competitive advan-

tages in these environments are short-lived (Covin and Slevin, 1989; Zahra, 1996). Accordingly, a high level of innovative capacity may help family firms to take advantage of technological opportunities in their environments while those family firms that lack innovative capacity may be unable to respond to such technological changes.

Hypothesis 4a: Technological opportunities moderate the relationship between innovative capacity and family firm performance. Specifically, the strength of the positive relationship between innovative capacity and performance is greater in environments rich in technological opportunities.

We further argue that in environments rich in technological opportunities a stewardship philosophy towards management, which encourages a collectivistic, trustworthy and pro-organizational culture, may be most effective (Davis et al., 1997). Communication, rapid decision-making (Eisenhardt, 1989; Gilley et al., 2004), flexibility (Gilley et al., 2004) and the willingness of employees to perform a variety of tasks (Lepak et al., 2003) are needed to survive in fast-paced, rapidly changing environments. Because reciprocal altruism facilitates communication and decision-making (Gersick et al., 1997) and is associated with cooperation, information exchange (Daily and Dollinger, 1992) and commitment (Kellermanns and Eddleston, 2004), reciprocal altruism may help family firms to compete in environments rich in technological opportunities. Indeed, family firms that encourage cooperation and collaboration may be best able to respond to environmental opportunities and changes (Zahra et al., 2004). In an uncertain and turbulent environment, trust and shared responsibility are necessary to adapt to environmental changes and to exploit opportunities as they arise (Davis et al., 1997), since trusting relationships help to ensure that sufficient amounts of credible information are shared and that the decision making process is accelerated (Eisenhardt, 1989; Talaulicar et al., 2005). In comparison, firms that lack reciprocal altruism may not possess the collectivistic and collaborative behaviours that are necessary to rapidly and effectively respond to technological changes and environmental opportunities (Zahra et al., 2004). Accordingly, a family firm with a high level of reciprocal altruism may be better able to compete in environments rich in technological opportunities.

Hypothesis 4b: Technological opportunities moderate the relationship between reciprocal altruism and family firm performance. Specifically, the strength of the positive relationship between reciprocal altruism and performance is greater in environments rich in technological opportunities.

Figure 1 summarizes our hypotheses and the postulated relationships between resources, moderating factors and performance.

METHODOLOGY

Sample

Data for the study were collected using a questionnaire survey, which is consistent with studies investigating family firms (e.g. Chrisman et al., 2002; Schulze et al., 2003a). A

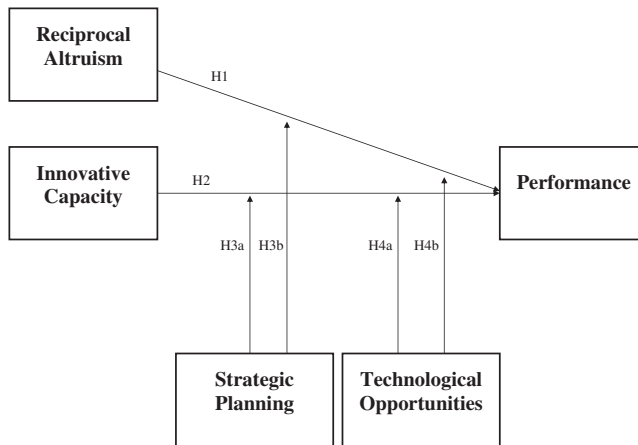


Figure 1. Resources and family firm performance

mailing list of 232 privately held family businesses was obtained from the family business centres and associated contacts at two universities in the northeastern USA. For the purposes of this study, family businesses were defined as those in which ownership lies within the family and at least two family members are employed by the business. In order to employ a top management team approach to the analysis of the study, each family firm was mailed a packet consisting of five questionnaires to distribute to key family members working in the business. We sought multiple respondents from each family firm because consensus among several stakeholders in the family firm would aid in the representativeness of our results for family businesses (Chua et al., 1999; Sharma et al., 2003). Furthermore, the aggregation of data would help to minimize the impact of individual differences in perception within each firm so as to form a more objective estimate of a firm's attributes and performance (Simons and Peterson, 2000). Self-addressed envelopes were included with each survey to ensure anonymity. The questionnaires were numbered and later matched per family firm so that the data could be aggregated to the group level. There were 126 questionnaires returned, resulting in 74 family firms and a 32 per cent response rate. The employment size for non-family employees of these firms ranged from 2 to 545 with an average size of 97 and a median of 44.

While half of the firms in our sample had multiple family members who responded to the survey, in the other 37 firms only one top management family member responded, most often the CEO. In top management team research the CEO is considered a reliable key informant who minimizes the informational and motivational biases which are associated with multiple organizational levels (Glick et al., 1990). To examine if we could combine single respondent firms with those with multiple respondents we calculated the r_{wgs} for multiple respondent firms according to James et al. (1984), which showed that the individual responses could be considered interchangeable (Bliese, 2000) ($r_{wg-Reciprocal\ Altruism} = 0.79$, $r_{wg-Innovative\ Capacity} = 0.87$, $r_{wg-Technological\ Opportunities} = 0.86$, $r_{wg-Strategic\ Planning} = 0.87$, $r_{wg-Performance} = 0.90$). That is, the r_{wgs} indicated that the CEOs provided similar ratings to non-CEOs. Therefore, we decided to include both single and multiple respondent firms in our analyses.

Furthermore, in order to assess potential non-response bias, we tested for differences between early and late respondents. The literature suggests that late respondents are more similar to non-respondents (Kanuk and Berenson, 1975; Oppenheim, 1966). An ANOVA between early and late respondents can therefore be helpful in testing for non-response bias when data from non-respondents is unavailable (for a recent example, see Chrisman et al., 2005c). We therefore divided our data into early and late respondents depending on when the questionnaires were received. We did not discover any statistically significant differences between the two groups; therefore non-response bias does not appear to pose a problem to our study.

Although we only found moderate levels of correlations between our variables, we centred the variables (Cronbach, 1987) and calculated the variance inflation factors (all <2.331) and the condition indices (all <5.723) to check for multicollinearity. All indices were below the suggested warning level (Hair et al., 1998); thus, multicollinearity was not a concern.

Lastly, we tested for common method bias as suggested by Podsakoff and Organ (1986). We entered the items of the independent, moderator and control variables into a factor analysis and extracted five factors with eigenvalues >1.0 , which accounted for 79 per cent of the variance. The first factor accounted for 32 per cent of the variance, while the remaining factors accounted for 47 per cent of the variance. We concluded that common method bias was not a problem in the current study since no single factor accounted for the majority of the variance and the individual factors separated cleanly.

Measures

This study was designed to determine if innovative capacity and reciprocal altruism impact organizational performance under the consideration of strategic planning and technological opportunities as moderators. The data was screened with the help of the Kolmogorov–Smirnow test to ensure normality and screened for outliers in the sample using Mahalanobis distance measures. Necessary transformations are noted in the subsequent paragraphs. All constructs were measured using Likert-type scales with a seven-point response format anchored by ‘strongly disagree’ to ‘strongly agree’ unless otherwise noted.

Reciprocal Altruism

We measured reciprocal altruism among family members based on a scale developed by Becker and Vance (1993). Four items were adapted to focus on altruism in the family firm context. Respondents indicated level of agreement or disagreement to the following items: ‘Family members often help other family members with their work when they are absent’, ‘Family members often volunteer to do things for the firm that is not required of them’, ‘Family members often assist other family members with their work’ and ‘Family members often help other family members who have heavy work-loads’. The four items were averaged to create a final score. The Cronbach alpha for the scale was 0.90.

Innovative Capacity

In order to assess the level of innovative capacity within a family firm, we asked respondents to indicate their level of agreement to three items modified from scales developed by Miller (1983) and Zahra (1996). The respondents were asked to indicate their level of agreement to the following items: 'Over the past three years, our firm has spent heavily (well above our industry average) on research and development', 'Over the past three years, our firm has pioneered the development of breakthrough innovations in its industry' and 'Our firm has shown a strong commitment to research and development, technological leadership and innovation'. The alpha for this scale was 0.83.

Strategic Planning

We measured strategic planning in family firms by modifying a scale by Gould (1979). The three items were reworded to reflect strategic planning in the corporate setting and improved on previous studies, which used single item scales (e.g. Schulze et al., 2001). Items included were: 'We have a strategy for achieving our business goals', 'We have a plan for our business' and 'We know what we need to do to reach our business goals'. An alpha of 0.87 was observed.

Technological Opportunities

We captured technological opportunities of a firm's environment by utilizing four items used by Zahra (1996). We asked the respondents to respond to the following items: 'Opportunities for product innovation are abundant in our major industry', 'Opportunities for technological innovation are abundant in our industry', 'Opportunities for major technological breakthroughs are abundant in our major industry' and 'Spending on research and development is higher in our major industry than in most industries'. The alpha for the scale was 0.83.

Performance

We asked eight performance related questions regarding growth in sales, growth in market share, growth in employees, growth in profitability, return on equity, return on total assets, profit margin on sales and the ability to fund growth from profits. A multitude of performance indicators was warranted due to the underlying multidimensionality of the performance construct (e.g. Cameron, 1978) and due to the need to achieve a reliable subjective performance measure. A subjective assessment of performance in family firms is common since respondents are very unlikely to report objective data often because the firms are not publicly traded (Love et al., 2002). Subjective measures have been shown to correlate highly with objective performance data (Dess and Robinson, 1984; Love et al., 2002; Venkatraman and Ramanujam, 1987). Specifically, respondents were asked to indicate if their current performance and past performance were much worse, about the same or higher than their competitors in terms of each of

the indicators of performance, thus indirectly controlling for industry influences in the performance measure. The individual scores were then added to form an overall performance score (e.g. Dess and Robinson, 1984; Love et al., 2002). Higher values connote better performance. The alpha for the performance measure was 0.89.

Control variable

Since it has been argued that differences in size can affect the relationships under study (e.g. Chrisman et al., 2004; Cockburn et al., 2000; Schulze et al., 2003a), we used the logarithm of number of employees to control for firm size. A transformation was necessary to achieve normal distribution.

RESULTS

The means, standard deviations, and zero-order correlations are shown in Table I. The hypotheses proposed in the research model were tested using multiple regression analysis. Results are presented in Table II. In model one, the control for size was entered, however, it was not significantly related to family firm performance. In order to test Hypotheses 1 and 2, we entered both independent variables in the second model. A significant change in R^2 was observed ($\Delta R^2 = 0.20$, $p < 0.001$), and innovative capacity ($\beta = 0.25$, $p < 0.05$) and reciprocal altruism ($\beta = 0.34$, $p < 0.01$) were found to have a significant positive affect on family firm performance.

In order to test the hypothesized moderation effects, we first entered the moderators independently in Model 3 and then entered the four interaction terms in Model 4. In Model 4, a significant change in R^2 was observed ($\Delta R^2 = 0.12$, $p < 0.05$). Hypothesis 3a proposed that strategic planning would moderate the relationship between innovative capacity and family firm performance. As Table II, Model 4 demonstrates, a significant interaction was found between strategic planning and innovative capacity ($\beta = -0.45$,

Table I. Descriptive statistics and correlations

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1. Size (employees) ¹	3.45	1.70					
2. Reciprocal Altruism	20.83	4.68	-0.05				
3. Innovative Capacity	8.34	4.33	0.16	0.14			
4. Strategic Planning	15.24	3.58	0.01	0.45**	0.24*		
5. Technological Opportunities	13.17	5.09	0.17	0.17	0.42***	0.22 [†]	
6. Organizational Performance	17.53	3.39	-0.05	0.32**	0.27*	0.26*	0.01

Notes:

¹ logarithmized.

N = 74, [†] $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table II. Multiple regression analysis; dependent variable: organizational performance^a

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>
<i>Step 1: Controls</i>				
Firm size (employees) ¹	-0.04	-0.06	-0.05	-0.01
<i>Step 2: Main effects</i>				
Reciprocal Altruism		0.34**	0.27*	0.15
Innovative Capacity		0.25*	0.25*	0.30**
<i>Step 3: Moderators</i>				
Strategic Planning			0.21 [†]	0.20 [†]
Technological Opportunities			0.02	-0.08
<i>Step 4: Interaction effect</i>				
Strategic Planning × Reciprocal Altruism				0.09
Strategic Planning × Innovative Capacity				-0.45**
Technological Opportunities × Reciprocal Altruism				0.22*
Technological Opportunities × Innovative Capacity				0.20
Change in R ²	0.00	0.20***	0.04	0.12*
R ²	0.00	0.20	0.25	0.36
Adjusted R ²	-0.01	0.17	0.19	0.28
F	0.11	50.96***	40.42**	40.07***

Notes:^a Regression coefficients are reported as betas.¹ logarithmized.N = 74, [†] p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

p < 0.01). Hypothesis 3b, which hypothesized that strategic planning would moderate the relationship between reciprocal altruism and family firm performance was not supported ($\beta = 0.09$, n.s.). Hypothesis 4a argued that technological opportunities would moderate the relationship between innovative capacity and family firm performance. Although the relationship approached marginal significance, the hypothesis could not be supported ($\beta = 0.20$, p = 0.12). However, Hypothesis 4b, which argued that technological opportunities would moderate the relationship between reciprocal altruism and family firm performance, was supported. A significant interaction was observed between technological opportunities and reciprocal altruism ($\beta = 0.22$, p < 0.05).

To facilitate the interpretation of the moderation effects, the significant interactions were plotted in Figures 2 and 3. The interaction between strategic planning and innovative capacity in Figure 2 shows that in family firms with low levels of strategic planning, there is a strong positive relationship between innovative capacity and performance. However, in family firms with high levels of strategic planning, there is a negative but weak relationship between innovative capacity and performance. In fact, the plotted interaction demonstrates that family firms with high levels of innovative capacity and low levels of strategic planning outperform those family firms with much strategic planning, regardless of their level of innovative capacity. Therefore, although we did find strategic planning to significantly moderate the relationship between innovative capacity and

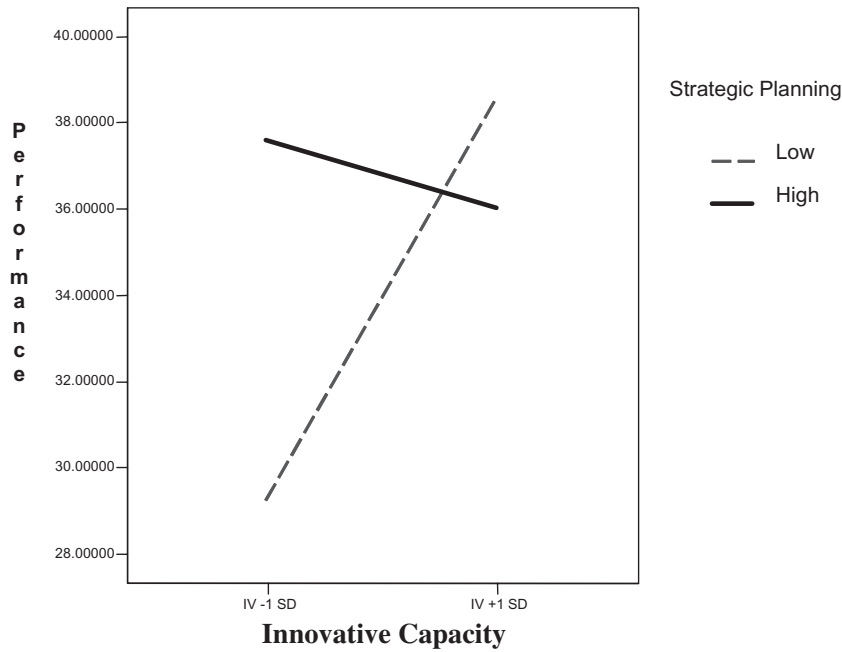


Figure 2. Interaction: strategic planning and innovative capacity

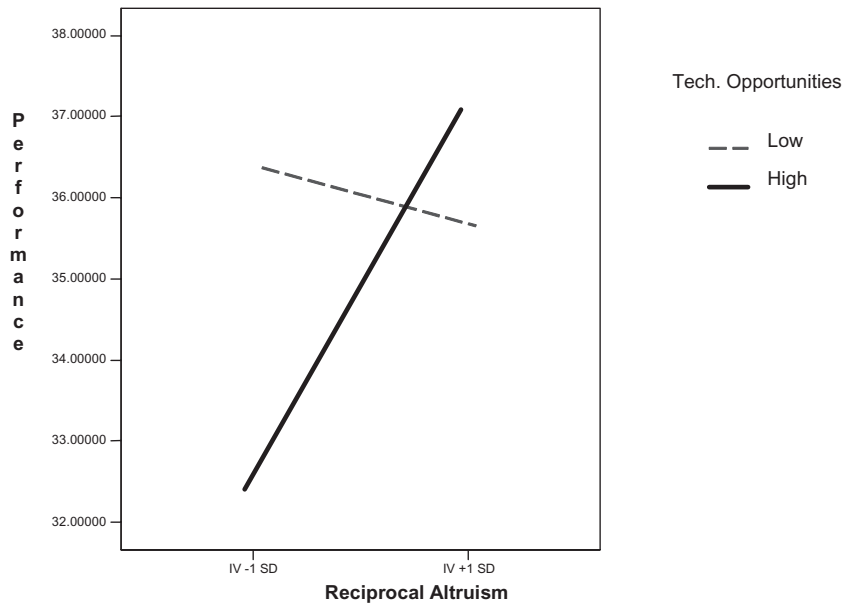


Figure 3. Interaction: technological opportunities and reciprocal altruism

performance, the direction of the relationship was the reverse of that hypothesized and therefore Hypothesis 3a was not supported.

The second significant interaction effect between technological opportunities and reciprocal altruism is displayed in Figure 3. The interaction shows that in environments that lack technological opportunities, reciprocal altruism has little effect on performance. However, when the environment is rich in technological opportunities a higher level of reciprocal altruism is associated with stronger family firm performance. These findings support Hypothesis 4b.

DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

While the literature often criticizes family firms for their lack of innovation (i.e. Cabrera-Suarez et al., 2001; Carney, 2005; Ward, 1987) and dysfunctional family relationships (i.e. Danes et al., 1999; Kellermanns and Eddleston, 2004; Sorenson, 1999), our study demonstrates that family firms that invest in their innovative capacity and foster altruistic family relationships are able to build a competitive advantage. In line with the RBV, firms with abundant resources that arise from technical and/or social complexity appear to be the most successful (Barney, 1991; Colbert, 2004). Thus it seems that both family- and firm-specific resources distinguish successful family firms from their less successful counterparts. Accordingly, our study adds to our understanding of the RBV and the family firm, and how family relationships, specifically those that support altruistic and stewardship behaviours, can be a source of competitive advantage. Our study is one of the first to explicitly investigate the importance of innovative capacity in family firms (for an earlier study see Gudmundson et al., 2003) and to draw from stewardship theory to investigate reciprocal altruism in family firms. Building on our findings, future research should consider how other family- and firm-specific resources that are technically and/or socially complex contribute to family firm success and survival.

In addition, our study adds to research on strategic management in family firms. Indeed, strategic management has been identified as an under-researched area in the family firm realm (Ward and Handy, 1988; Wortman, 1994). While previous research often focuses on family firms' reluctance to strategically plan for their futures (i.e. MassMutual Financial Group/Raymond Institute American Family Business Survey, 2003; Ward and Handy, 1988), our study focuses instead on how strategic planning can enhance the performance of family firms.

Furthermore, our study shows that the relationship between innovative capacity and strategic planning is complex. Contrary to our hypothesis, family firms rich in innovative capacity were found to experience slightly lower performance when they had high levels of strategic planning, as opposed to when they had low levels of strategic planning. One could speculate that family firms that strongly emphasize both innovative capacity and strategic planning are more likely to restrict their organizational choices (i.e. 'put all of their eggs in one basket') or to create breakthrough innovations that do not gain mainstream market acceptance, thus hurting their performance. Alternatively, one could argue that the organizational context plays an important role in explaining our findings. Organizations in dynamic environments may not have the time to engage in extensive strategic planning; in dynamic environments, extensive strategic planning may even be

a waste of resources, more emphasis may be needed on innovation. In comparison, in stable environments, strategic planning may be more important than innovation. Future research is necessary to clarify these findings.

Another avenue for future studies should be aimed at unravelling our complex findings concerning technological opportunities. While reciprocal altruism was found to be a positive resource in environments with a high level of technological opportunities, innovative capacity did not seem to matter in such environments. Perhaps innovative capacity can enhance a family firm's ability to successfully compete in any environment, as suggested by the significant main effect of innovative capacity on performance. Our finding that reciprocal altruism is more positively associated with family firm performance in environments rich in technological opportunities emphasizes that today's competitive landscape requires collectivistic and cooperative firm cultures (Davis et al., 1997). This finding is important to the family firm literature because it suggests that the family business can compete in technologically rich environments and that the family can be an important resource in such environments. Accordingly, future research should further investigate how other family-specific resources can enhance family firm performance in technologically rich environments. Understanding how the family can act as a resource and when such family-based resources are most critical to family firm success is of the utmost importance.

Family firms are often advised to move to professional management as soon as possible (Levinson, 1971). A common reason for this is that family firms may let family ties get in the way of becoming efficient. This study suggests that family ties can be a valuable intangible resource in helping the family firm develop a competitive advantage. However, the firm must monitor family ties and family conflict (Kellermanns and Eddleston, 2004), seeking to develop beneficial family relationships that can contribute to family firm performance. Importantly, this study showed that the performance of family firms cannot be fully understood without taking into account the psychodynamic effects of family relationships. Thus, our study shows a specific family resource, reciprocal altruism, which helps family firms to succeed. As such, this study demonstrates that family relationships are significantly tied to a family firm's performance. Our findings also suggest from the resource-based perspective that the inclusion of other family-specific resources may provide fruitful avenues for future studies that are aimed at helping family firms understand the unique resource that effective family relationships can provide.

Limitations and Implications for Theory and Practice

Before discussing the implications of our findings, a few limitations of our study should be noted. Prior research has identified multiple characteristics that can distinguish family firms and the influence of the family on the firm (e.g. Gersick et al., 1997; Klein et al., 2005; Sharma, 2003; Sharma and Manikuttu, 2005; Westheard and Cowling, 1998). For example, Gersick et al. (1997) discuss the evolution of family firms by distinguishing between controlling-owner, sibling partnerships and cousin consortium family firms. Although many studies on family firms do not differentiate between the different types or structures of family firms (e.g. Chrisman et al., 2004; Chua et al., 2004; Schulze et al.,

2003a), future research may want to investigate if different degrees of family involvement or family firm structures impact the observed relationships.

Because our research design is cross-sectional, we cannot deduce causal relationships. Clearly there are likely to be additional and important insights from future longitudinal studies. Similarly, since the variables were measured at the same time from the same source, common method variance cannot be fully ruled out. However, our results from the single factor test (Podsakoff and Organ, 1986) reduced this potential concern, consistent with other research that has concluded that while bias may be present, it may not always significantly affect results or conclusions (Doty and Glick, 1998; Spector and Brannick, 1995). Furthermore, after performing an extensive Monte Carlo study examining whether or not method variance might generate artifactual interactions, Evans (1985) concluded that artifactual interactions are difficult to create; true interactions can only be attenuated.

In addition, we relied on self-reported data to assess performance. Whereas objective performance measures would have been desirable, because the family firms in our sample were not publicly traded, this data was not available. However, Brush and Vanderwerf (1992) have suggested that self-reported performance data is correlated with objective performance. Indeed, our performance measure has often been employed in the literature and has been shown to be strongly related to objective performance data (e.g. Dess and Robinson, 1984; Love et al., 2002). Furthermore, our performance measure may have two distinct strengths. First, our measure indirectly controlled for industry effects and distortions from rent appropriation (cf. Coff, 1999). Second, our measure appears to be in line with Boyd et al.'s (2004) call for strategic management research to use scales with multiple indicators to ensure the high reliability of measures. While our innovative capacity and technological opportunities measures also indirectly controlled for industry effects and were assessed using multi-item measures, an additional, more direct assessment of performance and industry effects would have been desirable and should be included in future research. Our research design would have been strengthened by including an additional dependent variable from a secondary source as well as alternative performance measures specifically tailored to innovation.

We also need to mention potential concerns regarding our sample size. We had 74 family firms participate in our study. This sample size raises concerns about statistical power and increases the possibilities of a Type II error, i.e. incorrectly sustaining the null hypothesis (Mazen et al., 1987). While we found support for our main effects, we only found support for two out of four of our moderating hypotheses. It is therefore possible that we may have rejected a hypothesis due to low power (Aguinis, 1995). For example, the interaction between technological opportunities and innovative capacity approached marginal significance. However, the fact that we were able to find two significant moderating influences in our small sample suggests that at least moderate effect sizes are present (Aguinis, 1995). Future research is encouraged to replicate our findings.

Turning to the implications of this paper, our study contributes to the RBV of family firms by demonstrating that both family- and firm-specific resources contribute to family firm performance. Identifying reciprocal altruism as a family-specific resource demonstrates the positive impact that family involvement can have on a business and lends empirical support to the contention that human capital is the most important resource to a family firm (Sirmon and Hitt, 2003). Our results also suggest that relationships between

employees that can be characterized as stewardship-like and altruistic may constitute an important socially-complex resource that should be considered in future RBV research; such relationships may also be beneficial in non-family firms.

Furthermore, in line with research on strategic entrepreneurship that has argued that innovation is critical for firms to compete effectively (Hitt et al., 1998; Roberts, 1999), our study demonstrates that in order for family firms to succeed, they too must invest in their innovative capacity. Certainly more research should investigate other family- and firm-specific resources that may help family firms create a competitive advantage.

Our study extends the RBV by showing that strategic planning and the environment, i.e. technological opportunities, influence the relationship between resources and performance. As such, our study contributes to the RBV by considering contingencies in the resource–performance relationship, as called for in earlier research (e.g. Priem and Butler, 2001). Further, the finding that the relationships between performance and our technically (innovative capacity) and socially (reciprocal altruism) complex resources was affected by different moderators may be of interest to RBV researchers as they seek to understand how resources contribute to a firm's competitive advantage.

Recently, an argument regarding the contribution of Penrose to the RBV has surfaced (Kor and Mahoney, 2004; Lockett and Thompson, 2004; Rugman and Verbeke, 2002, 2004). While our paper does not directly address these arguments, it does offer a potentially new discussion stream pertaining to the applicability of Penrose's insights and the applicability of RBV in general to the realm of family firms. With Penrose's view of RBV concentrating on the quest for profitability and growth (Lockett and Thompson, 2004; Penrose, 1959) and RBV research often focusing on the importance of a sustainable competitive advantage, an interesting conundrum for the context of family firms is revealed. While family firms strive for cross-generational sustainability, family firms also pursue non-economic goals such as family harmony and the inclusion of family members (Lee and Rogoff, 1996; Sharma et al., 1997). Therefore, economic value creation and a sustainable competitive advantage may not be the exclusive focus in family firms and may call the normative implications of the RBV into question. However, other insights from Penrose are clearly reflected in our findings. Indeed, Penrose and others have highlighted the importance of managing resources over the possession of resources as well as the importance of interpersonal relationships and interactions amongst managers (e.g. Kor and Mahoney, 2004; Penrose, 1959). Thus, future research may want to investigate the boundaries of the RBV and Penrose's specific insights pertaining to their application to the realm of family firms.

Our findings also have important implications for practice. Results from this study suggest that a family firm which possesses an organizational culture that promotes stewardship and altruistic behaviours may be able to accrue a competitive advantage. Family firms should therefore encourage altruistic behaviours by family members. For example, training family members to act as a team and to anticipate the needs of co-workers, while also learning how such collectivistic attitudes can benefit the firm as well as the family should foster feelings of psychological ownership and stewardship behaviours. Encouraging cross-training among family members may also increase their ability to help overwhelmed family members with their work. Furthermore, when tasks are accomplished due to the altruistic behaviours of family members, those family

members should be recognized. However, while such recognition might provide positive reinforcement of the beneficial behaviour, we need to caution practitioners that reciprocal altruism is not easily generated, and if rewards become an expected response to altruistic behaviours, then the family will essentially lose the benefits of reciprocal altruism. Indeed, if a strong control system were to be implemented to enforce altruistic behaviours, the potential benefits of the altruistic behaviour, i.e. helping behaviours without expected return, would be lost and one would assume agency- rather than stewardship-based relationships. Rather, the aim should be to foster an organizational culture that supports reciprocal altruism as opposed to asymmetrical altruism, which consistently benefits some at the expense of others.

In addition, family firms operating in environments rich in technological opportunities should be particularly sensitive to the organizational cultures that they possess since altruistic relationships appear to be beneficial in such environments. Further, family firms are advised to give special consideration to developing and managing their ability to innovate because higher levels of innovative capacity were found to differentiate successful family firms from their less successful counterparts. From a practical standpoint this suggests that family firms should focus on developing their innovative capacity by encouraging both family and non-family members to become actively involved in the innovation process. Individuals who may have the requisite technical background, should deepen their roles in technology development and gain more experience and knowledge in conducting research and development. Indeed, general R&D expenditures should be emphasized, new sources of knowledge explored, and new employees with relevant and significant R&D experience should be recruited. In contrast, for those family firms that do not have the ability to strengthen their innovative capacity in the short run, particular attention should be paid to increasing their strategic planning efforts. Greater focus on strategy may be necessary to help these firms compete with their more innovative competitors and to exploit other strengths that they may have.

In summary, resources do matter to family firms. Family relationships can be managed to yield a competitive advantage as can firm-specific assets such as innovative capacity. Further, family firms must take into account their environment and carefully manage their strategic planning process to gain the full benefit of their resources.

REFERENCES

- Aguinis, H. (1995). 'Statistical power problems with moderated multiple regression in management research'. *Journal of Management*, **21**, 1141–58.
- Alvarez, S. A. and Barney, J. B. (2004). 'Organizing rent generation and appropriation: toward a theory of the entrepreneurial firm'. *Journal of Business Venturing*, **19**, 621–35.
- Alvarez, S. A. and Busenitz, L. W. (2001). 'The entrepreneurship of resource-based theory'. *Journal of Management*, **27**, 755–75.
- Barney, J. (1991). 'Firm resources and sustained competitive advantage'. *Journal of Management*, **17**, 99–120.
- Barney, J. B. and McEwing, M. D. (1996). *Gaining and Sustaining a Competitive Advantage*. Reading, MA: Addison-Wesley.
- Becker, T. E. and Vance, R. J. (1993). 'Construct validity of three types of organizational citizenship behavior: an illustration of the direct product model with refinements'. *Journal of Management*, **19**, 663–82.

- Bharadwaj, A. S. (2000). 'A resource-based perspective on information technology capability and firm performance: an empirical investigation'. *MIS Quarterly*, **24**, 169–96.
- Bliese, P. D. (2000). 'Within-group agreement, non-independence, and reliability'. In Klein, K. J. and Kozlowski, S. W. J. (Eds), *Multilevel Theory, Research and Methods in Organizations*. San Francisco, CA: Jossey-Bass, 349–81.
- Bloodgood, J. M. and Morrow, J. L. Jr (2003). 'Strategic organizational change: exploring the roles of environmental structure, internal conscious awareness and knowledge'. *Journal of Management Studies*, **40**, 1761–82.
- Boyd, B. K., Gove, S. and Hitt, M. A. (2004). 'Construct measurement in strategic management research: illusion or reality?'. *Strategic Management Journal*, **26**, 239–57.
- Brush, C. G. and Vanderwerf, P. A. (1992). 'A comparison of methods and sources for obtaining estimates of new venture performance'. *Journal of Business Venturing*, **7**, 157–70.
- Cabrera-Suarez, K., Saa-Perez, P. D. and Almeida, D. G. (2001). 'The succession process from a resource- and knowledge-based view of the family firm'. *Family Business Review*, **14**, 37–47.
- Cameron, K. (1978). 'Measuring organizational effectiveness in institutions of higher education'. *Administrative Science Quarterly*, **23**, 604–32.
- Carney, M. (2005). 'Corporate governance and competitive advantage in family-controlled firms'. *Entrepreneurship Theory and Practice*, **29**, 249–66.
- Chrisman, J. J., Gatewood, E. and Donlevy, L. B. (2002). 'A note on the efficiency and effectiveness of outsider assistance programs in rural versus non-rural states'. *Entrepreneurship Theory and Practice*, **26**, 67–80.
- Chrisman, J. J., Chua, J. H. and Zahra, S. A. (2003). 'Creating wealth in family firms through managing resources: comments and extensions'. *Entrepreneurship Theory & Practice*, **27**, 359–65.
- Chrisman, J. J., Chua, J. H. and Litz, R. (2004). 'Comparing the agency costs of family and non-family firms: conceptual issues and exploratory evidence'. *Entrepreneurship Theory and Practice*, **28**, 335–54.
- Chrisman, J. J., Chua, J. H. and Sharma, P. (2005a). 'Trends and directions in the development of a strategic management theory of the family firm'. *Entrepreneurship Theory and Practice*, **29**, 555–76.
- Chrisman, J. J., Chua, J. H. and Steier, L. P. (2005b). 'Sources and consequences of distinctive familiness: an introduction'. *Entrepreneurship Theory and Practice*, **29**, 237–48.
- Chrisman, J. J., McMullan, E. and Hall, J. (2005c). 'The influence of guided preparation on the long-term performance of new ventures'. *Journal of Business Venturing*, **20**, 769–91.
- Chua, J. H., Chrisman, J. J. and Sharma, P. (1999). 'Defining the family business by behavior'. *Entrepreneurship Theory and Practice*, **23**, 19–39.
- Chua, J. H., Chrisman, J. J. and Chang, E. P. C. (2004). 'Are family firms born or made? An exploratory investigation'. *Family Business Review*, **17**, 37–54.
- Cockburn, I. M., Henderson, R. M. and Stern, S. (2000). 'Untangling the origins of competitive advantage'. *Strategic Management Journal*, **21**, 1123–45.
- Coff, R. W. (1999). 'When competitive advantage doesn't lead to performance: the resource based view and stakeholder bargaining power'. *Organization Science*, **10**, 119–33.
- Cohen, W. and Levinthal, D. (1989). 'Innovation and learning: the two faces of R&D'. *Economic Journal*, **99**, 569–96.
- Cohen, W. and Levinthal, D. (1990). 'Absorptive capacity: a new perspective on learning and innovation'. *Administrative Science Quarterly*, **35**, 128–52.
- Colbert, B. A. (2004). 'The complex resource-based view: implications for theory and practice in strategic human resource management'. *Academy of Management Review*, **29**, 341–58.
- Collis, D. M. C. (1995). 'Competing on resources: strategy in the 1990s'. *Harvard Business Review*, July–August, 118–28.
- Corbetta, G. and Salvato, C. (2004). 'Self-serving or self-actualizing? Models of man and agency costs in different types of family firms: a commentary on "Comparing the agency costs of family and non-family firms: conceptual issues and exploratory evidence"'. *Entrepreneurship Theory and Practice*, **28**, 355–62.
- Covin, J. G. and Slevin, D. P. (1989). 'Strategic management of small firms in hostile and benign environments'. *Strategic Management Journal*, **10**, 35–7.
- Cronbach, L. J. (1987). 'Statistical tests for moderator variables: flaws in analyses recently proposed'. *Psychological Bulletin*, **102**, 414–17.
- Daily, C. M. and Dollinger, M. J. (1992). 'An empirical examination of ownership structure in family and professionally managed firms'. *Family Business Review*, **5**, 117–36.

- Danes, S. M., Zuiker, V., Kean, R., Arbuthnot, J. and Kaye, K. (1999). 'Predictors of family business tension and goal achievement'. *Family Business Review*, **12**, 241–52.
- D'Aveni, R. A. (1994). *Hypercompetition*. New York: Free Press.
- Davis, J. H., Schoorman, F. D. and Donaldson, L. (1997). 'Toward a stewardship theory of management'. *Academy of Management Review*, **22**, 20–47.
- Deeds, D. L., DeCarolis, D. and Coombs, J. E. (1998). 'Firm-specific resources and wealth creation in high-technology ventures: evidence from newly public biotechnology firms'. *Entrepreneurship Theory and Practice*, **22**, 55–73.
- Dess, G. G. and Robinson, R. B. (1984). 'Industry effects and strategic management research'. *Journal of Management*, **16**, 7–27.
- Doty, D. H. and Glick, W. H. (1998). 'Common methods bias: does common methods variance really bias results?'. *Organizational Research Methods*, **1**, 374–406.
- Eisenhardt, K. M. (1989). 'Making fast decisions in high velocity environments'. *Academy of Management Journal*, **32**, 543–76.
- Ellington, E. P., Jones, R. T. and Deane, R. (1996). 'TQM adoption practices in family-owned business'. *Family Business Review*, **9**, 5–14.
- Evans, M. G. (1985). 'A Monte Carlo study of the effects of correlated method variance in moderated multiple regression analysis'. *Organizational Behavior and Human Decision Processes*, **36**, 305–23.
- Floyd, S. W. and Lane, P. J. (2000). 'Strategizing throughout the organization: managing role conflict in strategic renewal'. *Academy of Management Review*, **25**, 154–77.
- Gersick, K. E., Davis, J. A., Hampton, M. M. and Lansberg, I. (1997). *Generation to Generation: Life Cycles of the Family Business*. Boston, MA: Harvard Business School Press.
- Gilley, K. M., McGee, J. E. and Rasheed, A. A. (2004). 'Perceived environmental dynamism and managerial risk aversion as antecedents of manufacturing outsourcing: the moderating effects of firm maturity'. *Journal of Small Business Management*, **42**, 117–33.
- Glick, W. H., Huber, G. P., Miller, C. C., Doty, D. H. and Sutcliffe, K. M. (1990). 'Studying changes in organizational design and effectiveness: retrospective event histories and periodic assessments'. *Organization Science*, **1**, 293–312.
- Gould, S. (1979). 'Characteristics of career planning in upwardly mobile occupations'. *Academy of Management Journal*, **22**, 539–50.
- Grant, R. M. (1991). 'The resource-based theory of competitive advantage: implications for strategy formulation'. *California Management Review*, **33**, 114–35.
- Greene, P. G. (1997). 'Resource needs and the dynamic capitalism typology'. *Journal of Business Venturing*, **12**, 161–73.
- Gudmundson, D., Tower, C. B. and Hartman, F. A. (2003). 'Innovation in small businesses: culture and ownership structure do matter'. *Journal of Developmental Entrepreneurship*, **8**, 1–17.
- Habbershon, T. G. and Williams, M. (1999). 'A resource-based framework for assessing the strategic advantage of family firms'. *Family Business Review*, **12**, 1–25.
- Habbershon, T. G., Williams, M. and MacMillan, I. C. (2003). 'A unified systems perspective of family firm performance'. *Journal of Business Venturing*, **18**, 451–65.
- Hadjimanolis, A. (2000). 'An investigation of innovation antecedents in small firms in the context of a small developing country'. *R&D Management*, **30**, 235–45.
- Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. C. (1998). *Multivariate Data Analysis*, 5th edition. Upper Saddle River, NJ: Pearson Education.
- Hamel, G. and Prahalad, C. K. (1989). 'Strategic intent'. *Harvard Business Review*, **69**, 63–76.
- Hanks, S., Watson, C., Jensen, E. and Chandler, G. (1994). 'Tightening the life-cycle construct: a taxonomic study of growth stage configurations in high-technology organizations'. *Entrepreneurship Theory and Practice*, **18**, 5–29.
- Hatch, N. W. and Dyer, J. H. (2004). 'Human capital and learning as a source of sustainable competitive advantage'. *Strategic Management Journal*, **25**, 1155–78.
- Heck, R. (2004). 'A commentary on entrepreneurship in family vs. non-family firms: a resource-based analysis of the effect of organizational culture'. *Entrepreneurship Theory and Practice*, **28**, 383–9.
- Hitt, M. A., Keats, B. W. and DeMarie, S. M. (1998). 'Navigating in the new competitive landscape: building strategic flexibility and competitive advantage in the 21st century'. *Academy of Management Executive*, **12**, 22–42.
- James, L. R., Demaree, R. G. and Wolf, G. (1984). 'Estimating within-group interrater reliability with and without response bias'. *Journal of Applied Psychology*, **69**, 85–98.

- Jaworski, B. J. and Kohli, A. (1993). 'Market orientation: antecedents and consequences'. *Journal of Marketing*, **57**, 53–70.
- Kanuk, L. and Berenson, C. (1975). 'Mail surveys and response rate: a literature review'. *Journal of Marketing Research*, **22**, 440–53.
- Kellermanns, F. (2005). 'Family firm resource management: commentary and extensions'. *Entrepreneurship Theory and Practice*, **29**, 313–20.
- Kellermanns, F. W. and Eddleston, K. (2004). 'Feuding families: when conflict does a family firm good'. *Entrepreneurship Theory and Practice*, **28**, 209–28.
- Kepner, E. (1991). 'The family and the firm: a coevolutionary perspective'. *Family Business Review*, **4**, 445–61.
- Ketokivi, M. and Castaner, X. (2004). 'Strategic planning as an integrative device'. *Administrative Science Quarterly*, **49**, 337–65.
- Klein, S. B., Astrachan, J. H. and Smyrnios, K. X. (2005). 'The F-PEC scale of family influence: construct validation, and further implication for theory'. *Entrepreneurship Theory and Practice*, **29**, 321–39.
- Kor, Y. Y. and Mahoney, J. T. (2004). 'Edith Penrose's (1959) contributions to the resource-based view of strategic management'. *Journal of Management Studies*, **41**, 183–91.
- Lane, P. J., Koka, B. R. and Pathak, S. (2006). 'The reification of absorptive capacity: a critical review and rejuvenation of the construct'. *Academy of Management Review*, **31**, 833–63.
- Lee, C., Lee, K. and Pennings, J. M. (2001). 'Internal capabilities, external networks, and performance: a study on technology-based ventures'. *Strategic Management Journal*, **22**, 615–40.
- Lee, M. S. and Rogoff, E. G. (1996). 'Research note: Comparison of small businesses with family participation versus small businesses without family participation: an investigation of differences in goals, attitudes, and family/business conflict'. *Family Business Review*, **9**, 423–37.
- Lepak, D. P., Takeuchi, R. and Snell, S. A. (2003). 'Employment flexibility and firm performance: examining the interaction effects of employment mode, environmental dynamism and technological intensity'. *Journal of Management*, **29**, 681–703.
- Levinson, H. (1971). 'Conflicts that plague family businesses'. *Harvard Business Review*, **49**, 90–8.
- Levinson, R. E. (1987). 'Problems in managing a family-owned business'. In Aronoff, C. E. and Ward, J. L. (Eds), *Family Business Sourcebook*. Detroit, MI: Omnigraphics, Inc., 169–74.
- Lockett, A. and Thompson, S. (2004). 'Edith Penrose's contribution to the resource-based view: an alternative perspective'. *Journal of Management Studies*, **41**, 193–203.
- Love, L. G., Priem, R. L. and Lumpkin, G. T. (2002). 'Explicitly articulated strategy and firm performance under alternative levels of centralization'. *Journal of Management*, **28**, 611–27.
- Makadok, R. (2001). 'Toward a synthesis of the resource-based and dynamic-capability view of rent creation'. *Strategic Management Journal*, **22**, 387–401.
- MassMutual Financial Group/Raymond Institute American Family Business Survey (2003). New nationwide survey points to bright spot in American economy – family-owned businesses. <http://www.RaymondInstitute.org>
- Mazen, A. M. M., Hemmasi, M. and Lewis, M. F. (1987). 'Assessment of strategic power in contemporary strategy research'. *Strategic Management Journal*, **8**, 403–10.
- McCann, J. E., Leon-Guerrero, A. Y. and Haley, J. D. (2001). 'Strategic goals and practices of innovative family businesses'. *Journal of Small Business Management*, **39**, 50–9.
- McGrath, R. G. (2001). 'Exploratory learning, innovation capacity and managerial oversight'. *Academy of Management Journal*, **44**, 118–31.
- McGrath, R. G. and MacMillan, I. C. (2000). *The Entrepreneurial Mindset: Strategies for Continuously Creating Opportunity in an Age of Uncertainty*. Boston, MA: Harvard Business School Press.
- McGregor, D. (1960). *The Human Side of Enterprise*. New York: McGraw Hill.
- Meyer, M. and Zucker, L. G. (1989). *Permanently Failing Organizations*. Newbury Park, CA: Sage.
- Miller, D. (1983). 'The correlates of entrepreneurship in three types of firms'. *Management Science*, **29**, 770–91.
- Miller, D., Le Breton-Miller, I. and Scholnick, B. (2008). 'Stewardship vs. stagnation: an empirical comparison of small family and non-family businesses'. *Journal of Management Studies*, **45**, forthcoming. doi: 10.1111/j.1467-6486.2007.00718.x
- Miller, D., Steier, L. and Le Breton-Miller, I. (2003). 'Lost in time: intergenerational succession, change and failure in family business'. *Journal of Business Venturing*, **18**, 513–31.
- Mishina, Y., Pollock, T. G. and Porac, J. F. (2004). 'Are more resources always better for growth? Resource stickiness in market and product expansion'. *Strategic Management Journal*, **25**, 1179–97.
- Morck, R. and Yeung, B. (2003). 'Agency problems in large business groups'. *Entrepreneurship Theory and Practice*, **27**, 367–82.

- Morck, R. and Yeung, B. (2004). 'Family control and rent-seeking society'. *Entrepreneurship Theory and Practice*, **28**, 391–410.
- Morris, M. H. (1998). *Entrepreneurial Intensity*. Westport, CT: Quorum Books.
- Nordqvist, M. (2005). 'Familianness in top management teams: commentary on Ensley and Pearson's "An exploratory comparison of the behavioral dynamics of top management teams in family and nonfamily new ventures: cohesion, conflict, potency and consensus"'. *Entrepreneurship Theory and Practice*, **29**, 285–92.
- Oppenheim, A. N. (1966). *Questionnaire Design and Attitude Measurement*. New York: Free Press.
- Penrose, E. T. (1959). *The Theory of the Growth of the Firm*. Oxford: Blackwell Publishing.
- Podsakoff, P. M. and Organ, D. W. (1986). 'Self-reports in organizational research: problems and perspectives'. *Journal of Management*, **12**, 531–44.
- Priem, R. L. and Butler, J. E. (2001). 'Is the resource-based "view" a useful perspective for strategic management research?'. *Academy of Management Review*, **26**, 22–40.
- Reed, R. and DeFillippi, R. (1990). 'Causal ambiguity, barriers to imitation, and sustainable competitive advantage'. *Academy of Management Review*, **15**, 88–102.
- Roberts, P. W. (1999). 'Product innovation, product-market competition and persistent profitability in the U.S. pharmaceutical industry'. *Strategic Management Journal*, **20**, 655–70.
- Rugman, A. M. and Verbeke, A. (2002). 'Edith Penrose's contribution to the resource-based view of strategic management'. *Strategic Management Journal*, **23**, 769–80.
- Rugman, A. M. and Verbeke, A. (2004). 'A final word on Edith Penrose'. *Journal of Management Studies*, **41**, 205–17.
- Schulze, W. S., Lubatkin, M. H., Dino, R. N. and Buchholtz, A. K. (2001). 'Agency relationship in family firms: theory and evidence'. *Organization Science*, **12**, 99–116.
- Schulze, W. S., Lubatkin, M. H. and Dino, R. N. (2002). 'Altruism, agency, and the competitiveness of family firms'. *Management and Decision Economics*, **23**, 247–59.
- Schulze, W. S., Lubatkin, M. H. and Dino, R. N. (2003a). 'Exploring the agency consequences of ownership dispersion among inside directors at family firms'. *Academy of Management Journal*, **46**, 179–94.
- Schulze, W. S., Lubatkin, M. H. and Dino, R. N. (2003b). 'Toward a theory of agency and altruism in family firms'. *Journal of Business Venturing*, **18**, 473–90.
- Shane, S. and Venkataraman, S. (2000). 'The promise of entrepreneurship as a field of research'. *Academy of Management Review*, **25**, 217–26.
- Sharma, P. (2003). 'A typology of family firms using internal stakeholders'. *Proceedings of the Administrative Sciences Association of Canada's annual conference in Halifax*, Vol. 24. Winner of 2003 Honorable Mention Award of Excellence.
- Sharma, P. and Manikutt, S. (2005). 'Strategic divestment in family firms: role of family structure and community culture'. *Entrepreneurship Theory and Practice*, **20**, 293–312.
- Sharma, P., Chrisman, J. J. and Chua, J. H. (1997). 'Strategic management of the family business: past research and future challenges'. *Family Business Review*, **10**, 1–36.
- Sharma, P., Chrisman, J. J. and Chua, J. H. (2003). 'Predictors of satisfaction with the succession process in family firms'. *Journal of Business Venturing*, **18**, 667–87.
- Simons, T. L. and Peterson, R. S. (2000). 'Task conflict and relationship conflict in top management teams: the pivotal role of intragroup trust'. *Journal of Applied Psychology*, **85**, 102–11.
- Sirmon, D. G. and Hitt, M. A. (2003). 'Managing resources: linking unique resources, management and wealth creation in family firms'. *Entrepreneurship Theory and Practice*, **27**, 339–58.
- Sorenson, R. L. (1999). 'Conflict management strategies used in successful family businesses'. *Family Business Review*, **12**, 325–39.
- Spector, P. E. and Brannick, M. T. (1995). 'The nature and effects of method variance in organizational research'. In Cooper, C. L. and Robertson, I. T. (Eds), *International Review of Industrial and Organizational Psychology*. Chichester: John Wiley, 249–74.
- Stamper, C. L. and Masterson, S. S. (2002). 'Insider or outsider? How employee perceptions of insider status affect their work behavior'. *Journal of Organizational Behavior*, **23**, 875–94.
- Talaulicar, T., Grunde, J. and Werder, A. (2005). 'Strategic decision making in start-ups: the effect of top management team organization and process on speed and comprehensiveness'. *Journal of Business Venturing*, **20**, 519–41.
- Thomke, S. and Kuemmerle, W. (2002). 'Asset accumulation, interdependence and technological change: evidence from pharmaceutical drug discovery'. *Strategic Management Journal*, **23**, 619–35.
- Tosi, H. L., Brownlee, A. L., Silva, P. and Katz, J. P. (2003). 'An empirical exploration of decision-making under agency controls and stewardship structure'. *Journal of Management Studies*, **40**, 2053–71.

- Upton, N., Teal, E. J. and Felan, J. T. (2001). 'Strategic and business planning practices of fast growth family firms'. *Journal of Small Business Management*, **39**, 60–72.
- Venkatraman, N. and Ramanujam, V. (1987). 'Measurement of business performance in strategy research: a comparison of approaches'. *Academy of Management Review*, **11**, 801–14.
- Verhees, F. J. H. M. and Meulenbergh, M. T. G. (2004). 'Market orientation, innovativeness, product innovation, and performance in small firms'. *Journal of Small Business Management*, **42**, 134–54.
- Ward, J. L. (1987). *Keeping the Family Business Healthy: How to Plan for Continuing Growth*. San Francisco, CA: Jossey-Bass.
- Ward, J. L. and Handy, J. (1988). 'A survey of board practices'. *Family Business Review*, **1**, 289–308.
- Westhead, P. and Cowling, M. (1998). 'Family firm research: the need for a methodological rethink'. *Entrepreneurship Theory & Practice*, **23**, 31–56.
- Wortman, M. S. (1994). 'Theoretical foundations for family-owned business: a conceptual and research based paradigm'. *Family Business Review*, **7**, 3–27.
- Zahra, S. A. (1996). 'Governance, ownership, and corporate entrepreneurship: the moderating impact of industry technological opportunities'. *Academy of Management Journal*, **39**, 1713–35.
- Zahra, S. A. (2003). 'International expansion of U.S. manufacturing family businesses: the effect of ownership and involvement'. *Journal of Business Venturing*, **19**, 495–512.
- Zahra, S. A., Neubaum, D. O. and Huse, M. (2000). 'Entrepreneurship in medium-size companies: exploring the effects of ownership and governance systems'. *Journal of Management*, **26**, 947–76.
- Zahra, S. A., Hayton, J. C. and Salvato, C. (2004). 'Entrepreneurship in family vs. non-family firms: a resource-based analysis of the effect of organizational culture'. *Entrepreneurship Theory & Practice*, **28**, 363–81.